

# **Low-Power Digital Ambient Light Sensor with Enhanced Sensitivity**

## **General Description**

The MAX44007 ambient light sensor features an I<sup>2</sup>C digital output that is ideal for a number of portable applications such as smartphones, notebooks, and industrial sensors. At less than 1 $\mu$ A operating current, it is the lowest power ambient light sensor in the industry and features an ultra-wide 22-bit dynamic range from 0.025 lux to 104,448 lux.

Low-light operation allows easy operation in dark glass applications.

The on-chip photodiode's spectral response is optimized to mimic the human eye's perception of ambient light and incorporates IR and UV blocking capability. The adaptive gain block automatically selects the correct lux range to optimize the counts/lux.

The IC includes two I<sup>2</sup>C slave address options: 1011 010x and 1011 011x.

The IC is designed to operate from a 1.7V to 3.6V supply voltage range and consumes only 0.65 $\mu$ A in full operation. It is available in a small, 2mm x 2mm x 0.6mm UTDFN-Opto package.

## **Applications**

Tablet PCs/Notebook Computers  
 TVs/Projectors/Displays  
 Digital Lighting Management  
 Portable Devices  
 Cellular Phones/Smartphones  
 Security Systems

## **Features**

- ♦ **Wide 0.025 Lux to 104,448 Lux Range**
- ♦ **Small, 2mm x 2mm x 0.6mm UTDFN-Opto**
- ♦ **V<sub>CC</sub> = 1.7V to 3.6V**
- ♦ **I<sub>CC</sub> = 0.65 $\mu$ A Operating Current**
- ♦ **-40°C to +85°C Temperature Range**
- ♦ **Improved Sensitivity Behind Dark Glass**

## **Ordering Information**

PART	PIN-PACKAGE	TEMP RANGE
MAX44007EDT+	6 UTDFN-Opto-EP*	-40°C to +85°C

+ Denotes a lead(Pb)-free/RoHS-compliant package.

\*EP = Exposed pad.

## **Block Diagram**

